



# UNITED STATES PATENT AND TRADEMARK OFFICE

301  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,757	02/08/2002	Huei-Wen Yang	3313-0482P-SP	6741
2292	7590	01/15/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HARAN, JOHN T	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/067,757

Applicant(s)

YANG ET AL.

Examiner

John T. Haran

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2/8/02 .                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 2/8/02 has been considered by the examiner.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

The section titled "Description of the Drawings" should be placed between the sections titled "Summary of the Invention" and "Detailed Description of the Preferred Embodiment".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 12 are indefinite because in the separating step the claims indicate that the signal duplication layer is on the second substrate when it is actually on the first substrate. Additionally it appears from the specification that the signal layer is formed by spin coating a high molecular resin solution onto the signal duplication layer not by curing (Specification, page 6, lines 6-8) and it is suggested to clarify such. It is also

Art Unit: 1733

noted that claims 1 and 12 have numerous grammatical problems. It is suggested to amend claim 1 as follows:

1. A production method of multi-layer information record carriers comprising:  
providing a first substrate and a second substrate;  
forming a signal duplication layer that contains signals on said first substrate;  
spin coating a high molecular resin solution on the signal duplication layer to form a signal layer;  
curing the signal layer;  
coating the surface of the cured signal layer with a second high molecular resin solution;  
affixing said second substrate the second high molecular resin solution so as to glue the signal layer and said second substrate together;  
curing the second high molecular resin solution; and  
separating said signal layer from said signal duplication layer of said first substrate.

It is suggested to similarly amend claim 12.

Claims 2 and 13 are indefinite because claiming that the substrates are nickel appears to be contrary to the teachings of the inventive concept of the invention of not using metallic stamping plates (See specification, page 4, lines 6-8). The specification at lines 21-23 of page 9 appear to indicate the first and second substrates can be polycarbonate, PMMA, or glass and does not mention nickel. The specification also teaches that the inventive concept is using a first substrate with a signal duplication

Art Unit: 1733

layer to replace a metallic stamping plate at page 4, lines 6-8. There is no indication in the specification that the substrates are nickel and having the first substrate be nickel, a metal, appears contradictory to the teaching that the inventive concept is to not have a metallic stamping plate. It is suggested to delete "nickel" from both claim 2 and 13.

Additionally it appears there is a lack of antecedent basis in the specification for these claims (2 and 13), because the specification mentions using polycarbonate, PMMA, or glass as the materials for the invention but not specifically for both the first and second substrates (Specification, page 9, lines 21-23). It is suggested to amend the specification to provide proper antecedent basis.

Claims 7 and 18 lack antecedent basis for spin coating the high molecular resins. It is suggested to claim such in independent claims 1 and 12.

Claims 9-11 and 20-22 are indefinite because it is unclear because of the use of the phrase "in accordance with the different specifications of the said multi-layer information record carriers". What are the specifications? Additionally it is unclear where the semi-reflection layers and the total reflection layers are placed, the configuration of the layers should be specifically claimed.

It is also noted that throughout the claims the terminology "the said" is used, which is redundant and should be amended to either say -- the -- or -- said --.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iida et al (U.S. Patent 5,171,392) in view of Kerfeld (U.S. Patent 6,190,838).

Iida et al is directed to a method of producing an optical information record carrier wherein a radiation setting resin (high molecular resin solution) is placed on a transparent stamper (first substrate) made of glass or plastic with a pit surface, a substrate (second substrate) is coated on the radiation setting resin to form a signal layer; the resin is irradiated through the transparent stamper to cure the radiation setting resin; and then the transparent stamper is peeled from the radiation setting resin with is now attached to the substrate. Iida et al is silent towards forming a signal duplication layer on the transparent stamper.

Kerfeld is directed to a method of making stampers for use in producing optical information record carriers and teaches that the stampers are made of glass and are coated with a thin reflective layer (signal duplication layer) of metal such as nickel so that the stamper can be used multiple times in a photopolymerization process without being destructive to the stamper (Column 7, lines 5-6 and Column 7, line 61 to Column 8, line 7). The photopolymerization process involves coating a photopolymer layer over

Art Unit: 1733

the reflective layer of the stamper, placing a substrate against the photopolymer layer, directing ultraviolet light through the stamper, including the reflective layer, to the photopolymer layer to cure it, and then separating the cured photopolymer layer from the reflective layer of the stamper (Column 8, line 66 to Column 9, line 17).

One skilled in the art would have readily appreciated applying a thin reflective layer (signal duplication layer) to the transparent stamper in lida et al in order to utilize the stamper multiple times without destruction of the stamper as suggested in Kerfeld. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a thin reflective layer (signal duplication layer) to the transparent stamper in the method of lida et al in order to utilize the stamper multiple times without destruction of the stamper as suggested in Kerfeld.

Regarding claim 13, lida et al teaches using glass or plastic for the stamper (first substrate (Column 3, lines 11-12) and that the second substrate when transparent can be PMMA or PC (Column 1, lines 23-26). One skilled in the art would have readily appreciated using known transparent plastics such as, PC or PMMA, for the transparent stamper and it would have been obvious to do so.

Regarding claim 14, Kerfeld teaches that the reflective layer (signal duplication layer) is metal such as nickel or chromium.

7. Claims 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over lida et al (U.S. Patent 5,171,392) in view of Kerfeld (U.S. Patent 6,190,838) as applied to claims 12-14 above, and further in view of Yamasaki et al (U.S. Patent 6,524,418).

Regarding claims 15-22, Iida et al is silent towards the claimed features in claims 15-22, however all are well known and conventional in the information record carrier art, as shown for example in Yamasaki et al. Yamasaki et al is directed to a method of production of multilayer optical recording medium similar to Iida et al and teaches forming metal layers on stampers by sputtering or plating, using ultraviolet light setting resins, spin coating UV resin curing layers on substrates and controlling thickness by the speed of the spin coating, affixing several layers to the signal layer including semi-reflection and total reflection layers, and such layers being formed from metal such as aluminum, silver or silica (See Column 5, line 54 to Column 6, line 64). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use materials and techniques well known and conventional in the information record carrier production art, such as the claimed features of claims 15-22, in the method of Iida et al, as modified above, as suggested for example in Yamasaki et al.

***Allowable Subject Matter***

8. Claims 1-11 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the prior art of record fails to suggest the claimed production method of multilayer information record carriers, particularly the claimed step of coating the cured signal layer with a second high molecular resin solution. There is no



Art Unit: 1733

suggestion or motivation in the prior art of record to coat a second high molecular resin solution upon a cured signal layer in order to form a "holding layer".

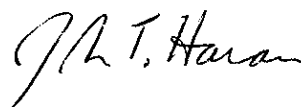
**Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Miwa et al (U.S. Patent 6,465,151) and Liao et al (U.S. Patent 6,599,385) are cited as being other examples of methods for producing information record carriers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John T. Haran** whose telephone number is **(571) 272-1217**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



John T. Haran  
Examiner  
Art Unit 1733